

REMARKS

This response is intended as a full and complete response to the Final Office Action dated November 14, 2006, having a shortened statutory period for response set to expire on February 14, 2007. In view of the following discussion, the Applicants believe that all claims are in allowable form.

CLAIM REJECTIONS

35 U.S.C. §103(a) Claims 23-24

Claims 23-24 stand rejected as being unpatentable over *Li* (U.S. Patent No. 6,448,536). The Applicants respectfully disagree.

Claim 23, from which claim 24 depends, recites elements not taught or suggested by *Li*. *Li* teaches an annular rectifying plate 26 disposed between a shield frame 5 and an inner surface of a process chamber. The shield frame 5 includes an inner cylinder, an outer cylinder concentrically disposed around the inner cylinder and a flat annular portion utilized to connect the inner and outer cylinder. An isolator 8 is inserted between the inner cylinder of the shield frame and a substrate support pedestal to bridge the shield frame and the substrate support pedestal. The Applicants submit that *Lin's* annular rectifying plate is sealingly in contact with and connected inbetween the inner surface of the process chamber and the shield frame. Additionally, *Lin's* shield frame is coupled to the insert and extends to the substrate support pedestal, thereby forming a contiguous and continuous surface from the inner surface of the process chamber to the substrate support pedestal. Thus, *Li* does not teach or suggest a first predetermined gap defined between a substrate support pedestal and a restrictor plate and a second predetermined gap defined between the restrictor plate and sidewalls of the processing chamber, wherein gas flows through the gaps, as recited by claim 23. Furthermore, *Li* does not teach or suggest a restrictor plate supported within a processing chamber in a laterally space-apart relation relative to the substrate support pedestal and sidewalls of the processing chamber, as recited by claim 23. Additionally, *Li* does not teach or suggest a modification to itself in a direction that would yield a restrictor plate supported within a processing chamber in a laterally

space-apart relation relative to the substrate support pedestal and sidewalls of the processing chamber, wherein a first predetermined gap defined between a substrate support pedestal and a restrictor plate and a second predetermined gap defined between the restrictor plate and sidewalls of the processing chamber, wherein a gas flows through the gaps, as recited by claim 23. As such, a *prima facie* case of obviousness has not been established as *Li* fails to teach or suggest each claimed element.

Thus, the Applicants submit that independent claim 23 and claim 24 depending therefrom are patentable over *Li*. Accordingly, the Applicants respectfully request the rejection be withdrawn and the claim allowed.

35 U.S.C. §103(a) Claims 1-3, 5-6, 9-11, 14-16, 18 and 25-30

Claims 1-3, 5-6, 9-11, 14-16, 18 and 25-30 stand rejected as being unpatentable over *Komino*, in view of *Yonenaga* (U.S. Patent No. 5,972,114). The Applicants respectfully disagree.

Independent claims 1, 10, 23 and 28 recite elements not taught or suggested by the combination of *Komino* and *Yonenaga*. *Komino* teaches a lower baffle plate 118 which is constituted by part of the central casing part CC defining the processing chamber 101 (column 6, lines 26-27). A suspension ring 118b surrounds the central portion of susceptor 114. The ring 118b is attached to out outer edge to the part of the central casing part CC comprising the sidewall of the chamber and at its inner edge to the susceptor. As such, the lower baffle plate 118 of *Komino* is not supported by a plurality of support pins. Furthermore, *Komino* does not teach or suggest a restrictor plate supported within a processing chamber in a laterally spaced-apart relation, or a first predetermined gap between the substrate support pedestal and the restrictor plate, and a second predetermined gap between the restrictor plate and the sidewalls of the processing chamber. In contrast to the claimed invention, *Komino* discloses that baffle plate 118 attached to the central casing part CC is part of the chamber wall and also, by suspension ring 118b, seals with the susceptor. Thus, the baffle plate of *Komino* can not be in a space-apart relation with the wall that it integrally extends therefrom or the susceptor it is sealed thereto. Therefore, *Komino* does not teach or suggest a restrictor

plate supported by a plurality of support pins as recited by claims 1 and 10; or a restrictor plate in a laterally space-apart relation relative to the sidewalls of a processing chamber wherein a first predetermined gap is between the substrate support pedestal and the restrictor plate, and a second predetermined gap is between the restrictor plate and the sidewalls of the processing chamber, as recited by the claims 23 and 28.

Yonenaga teaches using a single annular support column 48 to support and connect a flow regulator plate 46 coupled to sidewalls of a process chamber 12, not a plurality of pins as asserted by the Examiner. Moreover, as the baffle plate of *Komino* integrally extends from the chamber wall and bridges to the substrate support, there is no motivation to separately support the baffle plate with an annular ring. Further, the need for “additional support” means for the restrictor plate cannot be found within the references. Therefore, *Yonenaga* fails to teach, show, or suggest a modification to *Komino* that would yield at least one restrictor plate supported within the semiconductor processing chamber by a plurality of support pins, as recited by claims 1 and 10, or a restrictor plate in a laterally space-apart relation relative to the sidewalls of a processing chamber wherein a first predetermined gap is between the substrate support pedestal and the restrictor plate, and a second predetermined gap is between the restrictor plate and the sidewalls of the processing chamber, as recited by 25 and 28.

Thus, the Applicants submit that claims 1, 10 and 25, and 28, and claims 2-3, 5-6, 9-11, 14-16, 18 and 26-27 depending therefrom, are patentable over *Komino* and *Yonenaga*. Accordingly, the Applicants respectfully request the rejection be withdrawn and the claims allowed.

35 U.S.C. §103(a) Claims 7-8, 13 and 19-22

Claims 7-8, 13 and 19-22, stand rejected as being unpatentable over *Komino* in view of *Yonenaga*. The Applicants respectfully disagree.

As discussed above, independent claims 1 and 10, from which claims 7, 8, 13, and 19-22 depend, are patentable over *Komino* and *Yonenaga*. Neither *Komino* nor *Yonenaga*, alone or in combination, teaches or suggests at least one restrictor plate

supported within the semiconductor processing chamber by a plurality of support pins, as recited by claims 1 and 10.

Thus, the Applicants submit that claims 7-8, 13 and 19-22, that depend from claims 1 and 10, are patentable over *Komino* in view of *Yonenaga*. Accordingly, the Applicants respectfully request the rejection be withdrawn and the claims allowed.

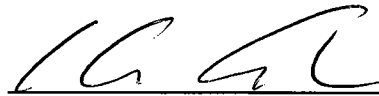
CONCLUSION

Thus, for at least the reasons discussed above, the Applicants submit that all claims now pending are in condition for allowance. Accordingly, both reconsideration of this application and its swift passage to issuance are earnestly solicited.

If, however, the Examiner believes that any unresolved issues still exist, it is requested that the Examiner telephone Mr. Keith Taboada at (732) 530-9404 so that appropriate arrangements can be made for resolving such issues as expeditiously as possible.

Respectfully submitted,

Jan 14, 2007



Keith P. TABOADA
Attorney Reg. No. 45,150
(732) 530-9404

Patterson & Sheridan, LLP
595 Shrewsbury Avenue
Suite 100
Shrewsbury, NJ 07702